

**REMARKS**

**Summary of the Office Action**

Claims 1-6 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

Claims 1, 2, 4, and 5 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 4,509,351 to Rolin et al. ("*Rolin*").

Claims 3 and 6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Rolin* in view of Japanese Publication JP 59-061529 to Okamoto et al. ("*Okamoto*").

**Summary of the Response to the Office Action**

Applicant has amended claims 1 and 4. Applicant traverses the rejections under §§ 102(b) and 103(a). Claims 1-6 are pending.

**The Rejections under 35 U.S.C. § 112**

Claims 1-6 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Applicant has amended claims 1 and 4 in accordance with the comments in the Office Action. Applicant respectfully submits that the amendments to claims 1 and 4 do not narrow the intended scope of the claim, and therefore, Applicant does not intent to relinquish any subject matter by these amendments. Applicant respectfully submits that independent claims 1 and 4, as amended, and dependent claims 2, 3, 5, and 6 fully comply with the requirements of 35 U.S.C. § 112, second paragraph. Accordingly, Applicant respectfully requests that the rejections under 35 U.S.C. § 112, second paragraph, be withdrawn.

**The Rejections under 35 U.S.C. § 102(b)**

Claims 1, 2, 4, and 5 stand rejected under 35 U.S.C. § 102(b) as being anticipated by *Rolin*. Applicant respectfully traverses the rejections for at least the following reasons.

With respect to independent claim 1, as amended, Applicant respectfully submits that *Rolin* does not disclose a method “so that the product having a non-circular cross section normal to the axis of rotation can be formed.” The Office Action suggests that the metal blank of *Rolin* is formed into a “tapered (non-circular)” cross section. Applicant respectfully disagrees. Form 5 of *Rolin* has a circular cross section normal to the axis of rotation. *See Rolin*, Fig. 1. The metal blank takes the shape of the form 5. *See Rolin*, col. 3, ll. 42-44. Therefore, the metal blank of *Rolin* is formed with a circular cross-section. Further, Applicant respectfully submits that tapered is not synonymous with a non-circular cross section normal to the axis of rotation.

Applicant respectfully asserts that the rejection of claim 1 under 35 U.S.C. § 102(b) should be withdrawn because *Rolin* does not disclose each feature of independent claim 1, as amended. As pointed out in MPEP § 2131, “[t]o anticipate a claim, the reference must teach every element of the claim.” Thus, “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros., Inc. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).” Further, Applicant respectfully asserts that independent claim 4, as amended, is allowable for reasons similar to those presented above with respect to independent claim 1, as amended. Finally, Applicant asserts that dependent claims 2, 3, 5 and 6

are allowable at least because of their respective dependencies from independent claims 1 and 4, as amended, and the reasons set forth above.

With further respect to dependent claim 2, Applicant respectfully submits that *Rolin* does not disclose a method wherein “the shape of the mandrel near the point of the forming roller contacting with the work is estimated based on the motion of the forming roller from a time point before one rotation of the mandrel.” The Office Action suggests that *Rolin* discloses this feature at col. 5, ll. 59-62. Applicant respectfully disagrees. *Rolin*, at most, discloses storing data for the entire production of a product. By contrast, according to the present invention, the shape of the mandrel near the point of the forming roller is estimated based on the motion of the forming roller from a time point before one rotation of the mandrel. Claim 2, ll. 5-8; *See also* page 12, lines 18-22. In fact, *Rolin* seems to disclose a method similar to the related art discussed on page 3 of the specification. As discussed on page 3, lines 5-7 of the specification, storing data for the entire of a product to be formed (as called for by *Rolin*) requires a massive storage capacity. The present invention avoids this problem. For at least this additional reason, claim 2 is allowable.

With further respect to dependent claim 5, Applicant submits that claim 5 is allowable for reasons similar to those presented above with respect to claim 2.

**The Rejections under 35 U.S.C. § 103(a)**

Claims 3 and 6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Rolin* in view of *Okamoto*. Applicant respectfully asserts that dependent claims 3 and 6 are allowable at least because of their respective dependencies from independent claims 1 and 4, as amended, which are allowable for the reasons discussed above. *Okamoto* fails to overcome the

deficiencies of *Rolin*, and thus, the combination fails to teach or suggest all the limitations of independent claims 1 and 4, as amended.

**CONCLUSION**

In view of the foregoing, Applicant respectfully requests reconsideration of the application and the timely allowance of the pending claims. Should the Examiner feel that there are any issues outstanding after consideration of the response, the Examiner is invited to contact the Applicant's undersigned representative to expedite prosecution.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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